



POWERED BY
CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

Liam Ryan
ryanl25@mymacewan.ca

NCL Spring 2022 Individual Game Scouting Report

Dear Liam Ryan,

Thank you for participating in the National Cyber League (NCL) 2022 Spring Season! Our goal is to prepare the next generation of cybersecurity professionals, and your participation is helping achieve that goal.

The NCL was founded in May 2011 to provide an ongoing virtual training ground for collegiate students to develop, practice, and validate their cybersecurity skills in preparation for further learning, industry certifications, and career readiness. The NCL scenario-based challenges were designed around performance-based exam objectives of CompTIA certifications and are aligned to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

As you look to a future career in cybersecurity, we hope you find this report to be valuable in both validating skills and identifying areas for improvement across the nine NCL skills categories. You can use this NCL Scouting Report to:

- Validate your skills to employers in any job application or professional portfolio;
- Show case your achievements and strengths by including the Score Card view of your performance as part of your résumé or simply sharing the validation link so that others may view the detailed version of this report.

The NCL 2022 Spring Season had 6,610 students/players and 467 faculty/coaches from more than 500 two- and four-year schools & 80 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from April 8 through April 10. The Team Game CTF event took place from April 22 through April 24. The games were conducted in real-time for students across the country.

NCL is powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for players to compete and track their progress in real-time.



To validate this report, please access: cyberskyline.com/report/1G0N5593TNNP

CompTIA. Based on the the performance detailed in this NCL Scouting Report, you have earned **14 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/comptia.

Congratulations for your participation in the NCL 2022 Spring Individual Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

David Zeichick
NCL Commissioner



POWERED BY
CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 SPRING INDIVIDUAL GAME

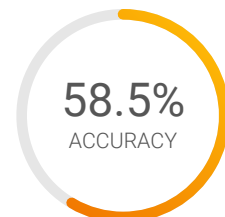
YOUR TOP CATEGORIES

WEB APPLICATION
EXPLOITATION
99TH PERCENTILE

LOG ANALYSIS
98TH PERCENTILE

PASSWORD
CRACKING
97TH PERCENTILE

NATIONAL RANK
176TH PLACE
OUT OF 6010
PERCENTILE
98TH

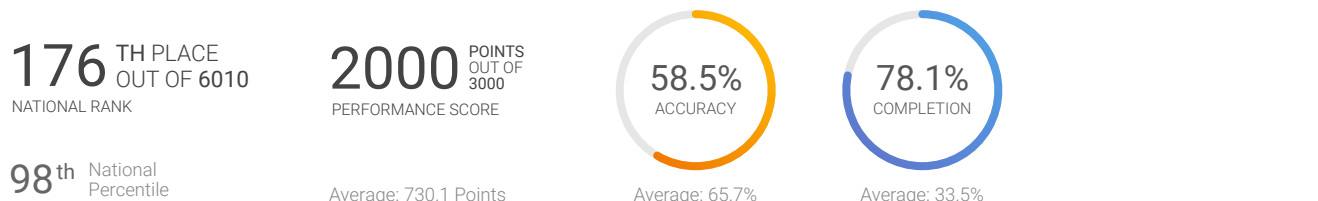


cyberskyline.com/report/1G0N5593TNNP



NCL Spring 2022 Individual Game

The NCL Individual Game is designed for student players nationwide to compete in realtime in the categories listed below. The Individual Game evaluates the technical cybersecurity skills of the individual, without the assistance of others.



Cryptography

Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

165 POINTS
OUT OF 345

71.4%
ACCURACY

COMPLETION: **71.4%**

Enumeration & Exploitation

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

160 POINTS
OUT OF 320

71.4%
ACCURACY

COMPLETION: **55.6%**

Forensics

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

100 POINTS
OUT OF 300

30.8%
ACCURACY

COMPLETION: **50.0%**

Log Analysis

Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

340 POINTS
OUT OF 340

58.6%
ACCURACY

COMPLETION: **100.0%**

Network Traffic Analysis

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

250 POINTS
OUT OF 360

41.5%
ACCURACY

COMPLETION: **81.0%**

Open Source Intelligence

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

200 POINTS
OUT OF 300

57.1%
ACCURACY

COMPLETION: **80.0%**

Password Cracking

Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

285 POINTS
OUT OF 310

83.3%
ACCURACY

COMPLETION: **95.2%**

Scanning & Reconnaissance

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

200 POINTS
OUT OF 300

77.8%
ACCURACY

COMPLETION: **50.0%**

Web Application Exploitation

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

200 POINTS
OUT OF 325

58.3%
ACCURACY

COMPLETION: **87.5%**

Note: Survey module (100 points) was excluded from this report.





Cryptography Module

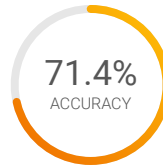
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

684TH PLACE
OUT OF 6010
NATIONAL RANK

165 POINTS
OUT OF 345
PERFORMANCE SCORE

89th National
Percentile

Average: 111.7 Points



Average: 85.3%



Average: 50.1%

TOP NICE WORKROLES

Security Control Assessor
Secure Software Assessor
Exploitation Analyst
Cyber Operator
Security Architect

Decoding 1 (Easy)

30 POINTS
OUT OF 30

100.0%
ACCURACY

COMPLETION: **100.0%**

Identify the type of base encoding used and decode the data

Decoding 2 (Easy)

25 POINTS
OUT OF 25

33.3%
ACCURACY

COMPLETION: **100.0%**

Identify the encoding scheme used and decode the data

Decoding 3 (Medium)

15 POINTS
OUT OF 35

50.0%
ACCURACY

COMPLETION: **50.0%**

Identify the encoding scheme used and decode the data

Decoding 4 (Medium)

40 POINTS
OUT OF 40

100.0%
ACCURACY

COMPLETION: **100.0%**

Identify the cipher scheme used and decrypt the data

Decoding 5 (Medium)

0 POINTS
OUT OF 40

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the communication scheme used and decode the message

Decoding 6 (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the communication scheme used and decode the message

Stego 1 (Easy)

35 POINTS
OUT OF 35

50.0%
ACCURACY

COMPLETION: **100.0%**

Identify the steganography technique used and extract the hidden data

Stego 2 (Medium)

20 POINTS
OUT OF 40

100.0%
ACCURACY

COMPLETION: **50.0%**

Identify the steganography technique used and extract the hidden data





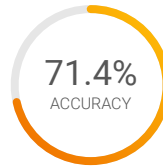
Enumeration & Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

377TH PLACE
OUT OF 6010
NATIONAL RANK

160 POINTS
OUT OF 320
PERFORMANCE SCORE

Average: 83.8 Points



Average: 60.7%



Average: 36.8%

TOP NICE WORKROLES

Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

94th National
Percentile

Validator (Easy)

Decompile and analyze Java bytecode

50 POINTS
OUT OF 100

60.0%
ACCURACY

COMPLETION: **75.0%**

Blocky (Medium)

Disassemble and analyze a malicious Chrome browser extension

0 POINTS
OUT OF 110

0.0%
ACCURACY

COMPLETION: **0.0%**

Exploit (Hard)

Analyze a remote Linux server for vulnerabilities and demonstrate proof of concept exploit

110 POINTS
OUT OF 110

100.0%
ACCURACY

COMPLETION: **100.0%**

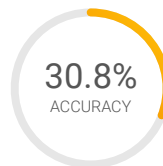
Forensics Module

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

520TH PLACE
OUT OF 6010
NATIONAL RANK

100 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 70.1 Points



Average: 57.4%



Average: 37.6%

TOP NICE WORKROLES

Cyber Defense Forensics
Analyst
Cyber Crime Investigator
Cyber Defense Incident
Responder
Cyber Defense Analyst

92nd National
Percentile

Archived (Easy)

Extract hidden metadata information from a tar archive file

100 POINTS
OUT OF 100

30.8%
ACCURACY

COMPLETION: **100.0%**

Puzzle (Medium)

Identify overlapping byte segments to reconstruct a multi-part file

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Hacker Flyer (Hard)

Extract sensitive data from a Windows memory dump

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**





Log Analysis Module

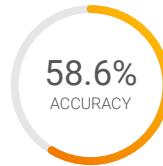
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

160TH PLACE
OUT OF 6010
NATIONAL RANK

98th National
Percentile

340 POINTS
OUT OF 340
PERFORMANCE SCORE

Average: 122.7 Points



Average: 42.8%



Average: 41.3%

TOP NICE WORKROLES

Cyber Defense Analyst
Systems Security Analyst
All-Source Analyst
Cyber Defense Forensics
Analyst
Data Analyst

IIS (Easy)

Analyze a Windows IIS web server log to identify attacker scanning activity

110 POINTS
OUT OF 110

66.7%
ACCURACY

COMPLETION: **100.0%**

Devices (Medium)

Analyze an IOT sensors log to identify anomalous behavior

110 POINTS
OUT OF 110

40.0%
ACCURACY

COMPLETION: **100.0%**

Email (Hard)

Analyze email logs to identify phishing attempts and suspicious email senders

120 POINTS
OUT OF 120

100.0%
ACCURACY

COMPLETION: **100.0%**

Network Traffic Analysis Module

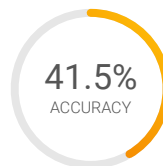
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

245TH PLACE
OUT OF 6010
NATIONAL RANK

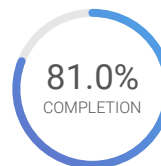
96th National
Percentile

250 POINTS
OUT OF 360
PERFORMANCE SCORE

Average: 102.3 Points



Average: 52.5%



Average: 37.5%

TOP NICE WORKROLES

Cyber Defense Analyst
All-Source Analyst
Cyber Defense Incident
Responder
Target Network Analyst
Cyber Operator

Transfer (Easy)

Extract sensitive information from a FTP packet capture

90 POINTS
OUT OF 90

38.9%
ACCURACY

COMPLETION: **100.0%**

WiFi Cracking (Medium)

Identify vulnerable WiFi encryption scheme and crack the WiFi password

70 POINTS
OUT OF 70

50.0%
ACCURACY

COMPLETION: **100.0%**

Kryptonite (Medium)

Decrypt and analyze an intercepted TLS packet capture

80 POINTS
OUT OF 80

40.0%
ACCURACY

COMPLETION: **100.0%**

AirKeys (Hard)

Analyze Bluetooth keyboard connection and reconstruct keystrokes to extract credential information

10 POINTS
OUT OF 120

33.3%
ACCURACY

COMPLETION: **20.0%**





Open Source Intelligence Module

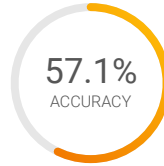
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

1836 ^{TH PLACE}
OUT OF 6010
NATIONAL RANK

200 ^{POINTS}
OUT OF 300
PERFORMANCE SCORE

70th National
Percentile

Average: 187.7 Points



Average: 71.0%



Average: 77.4%

TOP NICE WORKROLES

Systems Security Analyst
Target Developer
System Administrator
Research & Development
Specialist
Cyber Intel Planner

Rules of Conduct (Easy)

Introductory challenge on acceptable conduct during NCL

15 ^{POINTS}
OUT OF 15

100.0%
ACCURACY

COMPLETION: **100.0%**

Whois (Easy)

Explore whois registration information on IP addresses

60 ^{POINTS}
OUT OF 60

100.0%
ACCURACY

COMPLETION: **100.0%**

Filings (Easy)

Identify common regulatory filings required in the cybersecurity industry

50 ^{POINTS}
OUT OF 50

37.5%
ACCURACY

COMPLETION: **100.0%**

Tor (Medium)

Identify metadata and affiliation information about Tor relay nodes

75 ^{POINTS}
OUT OF 75

42.9%
ACCURACY

COMPLETION: **100.0%**

Caller ID (Hard)

Geolocate an individual using cellular tower identification number

0 ^{POINTS}
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**





Password Cracking Module

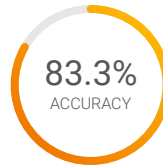
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

183 RD PLACE
OUT OF 6010
NATIONAL RANK

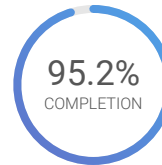
97th National
Percentile

285 POINTS
OUT OF 310
PERFORMANCE SCORE

Average: 108.5 Points



Average: 88.9%



Average: 48.4%

TOP NICE WORKROLES

Cyber Operator
Exploitation Analyst
Systems Security Analyst
Cyber Defense Incident
Responder
Cyber Crime Investigator

Hashing (Easy)

Generate password hashes for MD5, SHA1, and SHA256

15 POINTS
OUT OF 15

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 1 (Easy)

Crack MD5 password hashes

30 POINTS
OUT OF 30

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 2 (Easy)

Crack Windows NTLM password hashes

30 POINTS
OUT OF 30

60.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 3 (Medium)

Build a wordlist or pattern config to crack password hashes of a known pattern

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 4 (Hard)

Build a wordlist to crack passwords not found in common wordlists

120 POINTS
OUT OF 145

100.0%
ACCURACY

COMPLETION: **85.7%**

PDF (Medium)

Crack the password of a PDF document file

45 POINTS
OUT OF 45

50.0%
ACCURACY

COMPLETION: **100.0%**





Scanning & Reconnaissance Module

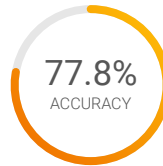
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

373 RD PLACE
OUT OF 6010
NATIONAL RANK

94th National
Percentile

200 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 95.2 Points



Average: 62.3%



Average: 30.7%

TOP NICE WORKROLES

Vulnerability Assessment
Analyst
Target Network Analyst
Cyber Operations Planner
Target Developer
Security Control Assessor

FTP Scan (Easy)

Scan a FTP server to enumerate its contents and possible vulnerabilities

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Disclosure (Medium)

Identify server configuration and enumerate remote web server paths

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Castle (Hard)

Scan and analyze the results from a LDAP server

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Web Application Exploitation Module

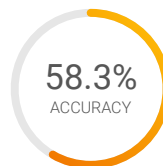
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

89 TH PLACE
OUT OF 6010
NATIONAL RANK

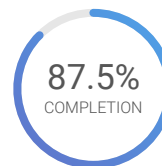
99th National
Percentile

200 POINTS
OUT OF 325
PERFORMANCE SCORE

Average: 53.3 Points



Average: 52.0%



Average: 33.3%

TOP NICE WORKROLES

Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

Wordly (Easy)

Exploit a popular game app by analyzing the partial logic in the browser side JavaScript code

100 POINTS
OUT OF 100

57.1%
ACCURACY

COMPLETION: **100.0%**

Cookie Game (Medium)

Identify and exploit hidden backdoor functionality to gain access to the server

100 POINTS
OUT OF 100

60.0%
ACCURACY

COMPLETION: **100.0%**

PayMo (Hard)

Exploit a payment processing app for vulnerabilities that would drain user balance

0 POINTS
OUT OF 125

0.0%
ACCURACY

COMPLETION: **0.0%**

